24 June

**Create Write a C Program to Sort a stack using a temporary stack.**

#include <bits/stdc++.h>

using namespace std;

// This function return the sorted stack

stack<int> sortStack(stack<int> &input)

{

stack<int> tmpStack;

while (!input.empty())

{

// pop out the first element

int tmp = input.top();

input.pop();

// while temporary stack is not empty and top

// of stack is greater than temp

while (!tmpStack.empty() && tmpStack.top() > tmp)

{

// pop from temporary stack and push

// it to the input stack

input.push(tmpStack.top());

tmpStack.pop();

}

// push temp in tempory of stack

tmpStack.push(tmp);

}

return tmpStack;

}

// main function

int main()

{

stack<int> input;

input.push(34);

input.push(3);

input.push(31);

input.push(98);

input.push(92);

input.push(23);

// This is the temporary stack

stack<int> tmpStack = sortStack(input);

cout << "Sorted numbers are:\n";

while (!tmpStack.empty())

{

cout << tmpStack.top()<< " ";

tmpStack.pop();

}

}

Output:

Sorted numbers are:

3 23 31 34 92 98